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A Compliance Evaluation System for Broadcasting Institutions in the Post-Analog Transition Era: Applying AHP and SAW to Administrative, Technical, and Legal Criteria

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Abstract— This study addresses the pressing need for systematic compliance evaluation of radio broadcasting institutions in Indonesia amid the country's transition to digital broadcasting. As the Ministry of Communication and Information Technology mandates adherence to new regulatory frameworks, ensuring broadcaster compliance has become critical for maintaining media accountability, quality, and governance. To evaluate compliance across administrative, technical, and legal dimensions, this study integrates the Analytic Hierarchy Process (AHP) to determine priority weights and the Simple Additive Weighting (SAW) method to rank 527 radio broadcasters. The AHP method achieved a consistency ratio (CR) of less than 0.1, validating expert-based weight assignments for eight regulatory criteria, including licensing, permit payment, technical equipment standards, and ownership reporting. The SAW method then translated these weights into performance scores, categorizing stations into three compliance levels: High (382 providers, with an average score of 100%), Moderate (120 providers, with an average score of 83.65%), and Low (25 providers, with an average score of 50.85%). These results indicate a relatively high regulatory compliance among radio broadcasters, suggesting improved institutional awareness and the effectiveness of current oversight mechanisms. A data-driven Decision Support System (DSS) developed from this framework offers regulators a scalable tool for formulating targeted policies and interventions based on measurable compliance outcomes.

Keywords— Analytical Hierarchy Process; Simple Additive Weighting; Radio Broadcasting Compliance; Decision Support System; Regulatory Evaluation

I. INTRODUCTION

Indonesia's broadcasting industry is undergoing a fundamental transformation following the national mandate to shift from analog to digital broadcasting [1]. This transition introduces not only technological upgrades but also regulatory challenges, as many institutions struggle to align with updated standards set by the Indonesian Broadcasting Commission (KPI) and the Ministry of Communication and Information Technology. Despite efforts to establish clear compliance frameworks, recent audits reveal inconsistencies in license ownership, equipment conformity, and administrative reporting. Moreover, the lack of a standardized, quantitative system for evaluating compliance impedes regulatory bodies from making data-driven decisions or issuing timely interventions.

In response, this study proposes a measurable and systematic framework for evaluating compliance using multi-criteria decision-making methods. Specifically, it applies the AHP and SAW to assess compliance performance across three core dimensions: administrative, technical, and legal. While AHP determines the relative importance of regulatory criteria through expert judgment, SAW translates those weights into actionable rankings across 527 licensed radio broadcasting providers. This integrated method addresses a critical research gap, the absence of a scalable, evidence-based model for evaluating broadcaster compliance in Indonesia's evolving media ecosystem.

The use of AHP and SAW has gained considerable traction across various fields, with their combined application enhancing decision-making processes. AHP's structured framework allows for multi-criteria decision-making, accommodating the complexity of evaluating multiple factors simultaneously [2]. For instance, AHP has been successfully utilized in educational settings to evaluate teaching performance, confirming its versatility [3]. Additionally, studies highlight AHP's effectiveness in combining qualitative and quantitative assessments, which is vital in developing responsive governance structures [4].

The synergy of AHP and SAW creates an enhanced decision-support framework. This is evident in evaluations within different sectors, where various criteria are weighed to prioritize interventions or resources effectively [5][6][7]. For instance, Pinho and Moura discuss the application of combined methods, such as AHP-TOPSIS and AHP-VIKOR, to address healthcare priority setting, illustrating the synergistic effectiveness of AHP with other decision-making frameworks [8]. Furthermore, studies indicate that incorporating SAW alongside AHP enhances the decision-making process, providing a robust approach for evaluating complex scenarios [9]. Additionally, the research by Štofková et al. illustrates the capability of AHP in managerial decision-making processes that contribute to sustainable development, highlighting how its integration with methods like SAW assists in comprehensive evaluations across various sectors [10].

Furthermore, the integration of these methods can lead to improved stakeholder involvement by clearly delineating priorities and offering transparent metrics for evaluation [11]. This amalgamation has shown promise in creating policies that

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resonate well with the nuanced needs of diverse media environments, thus reflecting the dynamic nature of the broadcasting landscape within Indonesia [12].

The urgency and relevance of developing a compliance evaluation system based on AHP and SAW cannot be overstated, particularly in the context of Indonesia's digital media transformation. By leveraging these analytical tools, broadcasting institutions can navigate the complexities of compliance and operational fidelity, thereby contributing to a resilient and adaptive media ecosystem in the face of ongoing digital evolution [13].

II. Research Methodology

This study employs a quantitative approach, systematically analyzing data derived from official field verification reports of radio broadcasting institutions. These reports serve as a primary source for evaluating compliance with broadcasting regulations. Quantitative data collection and analysis are essential for providing a statistical foundation for compliance assessments, ensuring that insights derived are empirically grounded and reliable [14].

The choice of the AHP and SAW methods was guided by their complementary strengths in multi-criteria decision-making. AHP allows for structured pairwise comparison and the inclusion of expert judgment in determining the relative importance of criteria, making it particularly suiTable for complex regulatory evaluation settings involving administrative, technical, and legal factors. SAW, on the other hand, is a straightforward scoring method that facilitates the aggregation and ranking of alternatives based on weighted criteria, allowing for a transparent interpretation of compliance levels across institutions.

These methods were selected over alternatives such as TOPSIS or Fuzzy AHP due to their interpretability and suitability for datasets derived from regulatory field reports. Nevertheless, it is acknowledged that both AHP and SAW rely heavily on the validity of expert input and pre-defined scoring models. In contexts where subjective bias or inconsistent data quality may be present, these limitations should be taken into account. Future studies may explore hybrid or fuzzy-enhanced approaches to address these challenges in more uncertain environments.

The analysis progresses through two main stages, beginning with the application of the AHP to assign weight values to each evaluation criterion. AHP systematically organizes evaluations into a hierarchical structure and relies on pairwise comparisons to establish the relative importance of criteria, informed by expert insights. This process enhances the rigor of criteria selection and prioritization, thereby facilitating more informed decision-making [5][14]. The AHP serves as a powerful method for simplifying complex decision-making scenarios by establishing hierarchies. This structured approach facilitates an evaluation process by translating multifaceted criteria into a manageable format, thereby enabling decision-makers to focus on the most pertinent factors at hand [15][16]. For instance, Liu et al. demonstrated that AHP aids in product design decisions by enabling designers to identify priorities among competing criteria, illustrating its effectiveness in handling complex choices across various professional fields [15]. Similarly, Sahoo and Goswami highlighted the significance of multiple-criteria decision-making methods, such as AHP, in supporting engineering decisions by breaking down problems into simpler hierarchical structures, which underscores its widespread application across decision-making domains [17].

The significance of expert input in the AHP process is crucial. Experts bring a wealth of knowledge and insight, which bolsters the credibility of the criteria weightings assigned within the hierarchical model. This perspective is invaluable as it engages professional judgment to ascertain the importance of different factors relative to the overall decision [16][18]. Fei et al. noted that leveraging expert opinions enhances the comprehensive evaluation process and strengthens the resultant composite rankings, although their specific focus was on human capital in nursing management [19]. Furthermore, the role of expert knowledge has been emphasized in the context of vulnerability assessments, where the incorporation of expert evaluations along with statistical data enhances the robustness of AHP outcomes [20].

In the subsequent stage of analysis, the SAW method is utilized to rank alternatives, specifically the broadcasting institutions. SAW totals scores for each institution by calculating the products of the previously established criterion weights and the corresponding performance scores of each institution. This method provides a clear and quantitative basis for comparison among institutions, leading to a definitive ranking that underscores compliance performance [14]. The integration of AHP and SAW enables a robust evaluation framework, combining the depth of hierarchical assessment with the clarity of additive scoring, which collectively fosters transparency and accountability within regulatory oversight processes [14].

Employing both AHP and SAW enhances the objectivity of assessments, yielding measurable outcomes that can inform policy and decision-making in the broadcasting sector. This methodological synergy not only bolsters the integrity of evaluations but also supports the broader goal of fostering a responsible and responsive media environment amidst the rapid digital transformation impacting Indonesian broadcasting [5]. In summary, the convergence of these structured decision-making methodologies yields a high degree of precision in compliance evaluations, serving as a vital tool for enhancing governance within Indonesia's evolving media landscape.

The research stages serve as a systematic framework that outlines the overall process of the study, from problem formulation to the conclusion. In the context of this research, the stages are specifically designed to address the research questions using a quantitative approach, supported by the application of the AHP and SAW methods as the primary tools for evaluation and decision-making.

These methods are integrated into each stage of the research to ensure a structured, objective, and transparent analysis. Fig.1 illustrates the complete sequence of the research stages.

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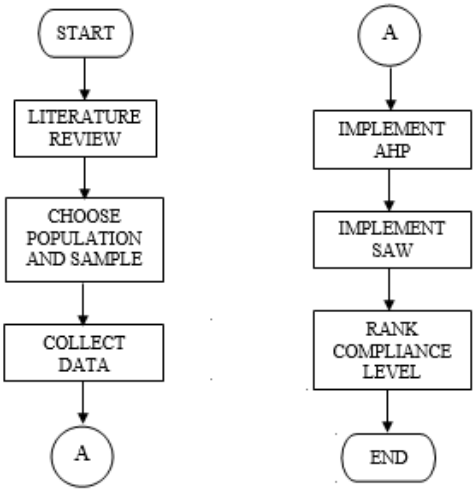

Fig.1. Research Stage

This study focuses on radio broadcasting service providers in Indonesia that hold a valid Broadcasting Operation License (*Izin Penyelenggaraan Penyiaran* or IPP) as the primary research subjects. The selection of this focus is based on the critical importance of compliance with broadcasting regulations in maintaining the quality, integrity, and social responsibility of the broadcasting media in Indonesia. The research objects are national in scope and include all legally operating and officially registered radio broadcasting institutions across the country.

This study employs a quantitative approach, focusing on a population consisting of all radio broadcasting service providers in Indonesia that hold a valid Broadcasting Operation License (IPP). According to the latest data from the Komdigi reporting application (https://e-penyiaran.komdigi.go.id/) as of 2024, there are a total of 1,489 radio broadcasting institutions categorized as follows:

1. Private Broadcasting Providers: 1,264 institutions
2. Community Broadcasting Providers: 97 institutions
3. Local Public Broadcasting Providers: 127 institutions
4. National Public Broadcasting Provider (RRI): 1 institution

With a total population of 1,489 broadcasting providers, the next step is to determine a representative sample from this population. The purpose of defining the population in this study is to obtain an accurate, comprehensive, and representative overview of the level of compliance with broadcasting regulations. The selection of respondents was carried out using Slovin's formula, resulting in a total sample size of 527 respondents. Random sampling was applied to ensure that every broadcasting provider had an equal chance of being selected, thereby enhancing the objectivity of the sampling process. This sample size ensures that the study's findings accurately and unbiasedly represent the entire population of radio broadcasting providers in Indonesia, accounting for data variability and the geographical distribution of providers.

The sample size was determined using Slovin's formula with a margin of error of 3.5%. This approach was chosen to guarantee that the sample accurately represents the population with a low error rate, allowing the compliance level analysis results to be generalized reliably to all radio broadcasting providers holding a Broadcasting Operation License. The 3.5% margin of error also reflects the high level of precision required for an evaluation based on national regulatory standards. In this study, data collection employed a mixed-methods approach, comprising documentation, interviews, and observation. This approach aims to obtain accurate, comprehensive, and verifiable data from multiple sources.

This study employs a combined approach using the AHP and SAW methods to analyze the compliance level of radio broadcasting providers in Indonesia. This integrated method was selected for its ability to deliver systematic, quantitative evaluations grounded in a robust multi-criteria decision-making framework. The primary objective is to develop a ranking of compliance levels for each broadcasting provider based on adherence to applicable regulatory provisions, as stipulated in Ministerial Regulation No. 6 of 2021 of the Ministry of Communication and Information Technology (*Permenkominfo*) and its subsequent amendments. The analysis consists of two major stages.

1) Criteria Weighting Using AHP: The AHP method is applied to determine the relative importance of each evaluation criterion, which is derived from regulatory standards and expert consultations. This process includes the following steps:

a. Structuring the problem into a hierarchical model.
b. Developing a pairwise comparison matrix to assess the relative importance of each criterion.
c. Calculating the priority weights for each criterion.
d. Performing a consistency check to ensure logical coherence and mathematical validity of the judgments.

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2) Alternative Ranking Using SAW: After determining the criteria weights using AHP, the SAW method is employed to calculate the preference scores for each alternative, specifically each radio broadcasting provider. The SAW procedure involves:

a. Normalizing the attribute values of each alternative.
b. Multiplying the normalized values by the corresponding criterion weights.
c. Summing the weighted attribute values to generate a final score.
d. Ranking the alternatives based on descending order of their final scores.

The combination of AHP and SAW provides methodological flexibility for handling multi-criteria data, where AHP plays a critical role in structuring the problem. At the same time, SAW is responsible for calculating the final scores. This integrated approach supports evidence-based, transparent, and systematic decision-making, aligning to foster accountable and effective broadcasting governance.

III. Result and Discussion

A. AHP Calculation Method

The first step is to analyze the criteria and alternatives used in the study. These criteria and alternatives were identified through interviews, observations, and document analysis conducted by the researchers. They serve as the foundation for applying the Decision Support System using the AHP and SAW methods to evaluate the compliance level of radio broadcasting providers.

The formulation of these evaluation criteria is based on Appendix VII of Ministerial Regulation No. 6 of 2021 issued by the Ministry of Communication and Information Technology, which outlines various broadcasting violations and corresponding administrative sanctions. The criteria were further refined during the Coordination Meeting on Mapping Broadcasting Compliance Levels, held from January 10 to 12, 2024, in Bandung, West Java.

This coordination meeting resulted in the establishment of several key compliance criteria that reflect the obligations broadcasters must fulfill. The Monitoring and Evaluation Team uses these obligations during administrative verification and field inspections of broadcasting operations. The specific criteria used to assess compliance levels are detailed in Table I, which outlines the aspects examined during the compliance evaluation process.

Based on the criteria in Table I, the next step is to classify these criteria and assign values to each variable within them. This process aims to identify the aspects that influence the level of importance assigned to each criterion. Table II presents the importance level for each criterion along with its associated variables.

Based on the results of the Field Verification Report on Broadcasting Compliance conducted among radio broadcasting operators, the author has collected the data and used it as an alternative to the predetermined sample size of 527 broadcasting operators. The alternative data of these 527 radio broadcasting operators is presented in Table III.

The next step is to construct the pairwise comparison matrix for each criterion by determining its relative importance levels. The comparison values are assigned based on Saaty's established scale, derived from the results of the Broadcasting Compliance Coordination Meeting held on February 15–17, 2025, in Bandung City, West Java Province, as shown in Table IV.

The third step is to calculate the normalized values of the matrix in Table IV by dividing each cell value by the total of its respective column. The normalized matrix values are presented in Table V.

The next step in the AHP calculation method is to determine the priority weight vector (eigenvector), which is done by summing the normalized matrix values in each row of the criteria and dividing by the total number of criteria. The results of the priority weight calculation are presented in Table VI.

Subsequently, it is necessary to calculate the consistency ratio, which involves multiplying the pairwise comparison matrix in Table IV by the eigenvector (priority weights). The results of these multiplications are then summed for each criterion to obtain the vector values. The results of this calculation are presented in Table VII.

TABLE I
CRITERIA FOR ASSESSING THE COMPLIANCE LEVEL OF BROADCASTING PROVIDERS

Criteria	Name of Criteria
K1	The business entity has conducted broadcasting activities by obtaining a Business License.
K2	The broadcasting provider has paid the Broadcasting Operation Permit (BOP) fee following the designated zone, as mandated by prevailing laws and regulations.
K3	The broadcasting provider complies with the provisions of the broadcasting technical master plan and the technical requirements of broadcasting equipment.
K4	The broadcasting provider has not transferred the broadcasting license.
K5	The broadcasting provider complies with the regulations regarding changes in foreign share ownership, concentration of ownership, and cross-ownership
K6	The broadcasting provider has submitted the most recent deed of amendment, which includes changes to the legal entity's name, board composition, shareholding and capital, and office address.
K7	Broadcasting service institutions (radio or television) using terrestrial media for special purposes, broadcasting programs that follow the proposed field by at least 80% of the total broadcasting content.
K8	The broadcasting provider opens access and/or provides requested information for monitoring and evaluation.

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TABLE II
CRITERIA CLASSIFICATION AND VARIABLE VALUES

Criteria	Name	Indicator	Variable	Value
K1	The business entity has conducted broadcasting activities by obtaining a Business License.	Yes	Compliant	5
		No	Not Compliant	1
K2	The broadcasting provider has paid the Broadcasting Operation Permit (BOP) fee following the designated zone, as mandated by prevailing laws and regulations.	YEAR >= 2023	Compliant	5
		YEAR <= 2022	Not Compliant	1
K3	The broadcasting provider complies with the provisions of the broadcasting technical master plan and the technical requirements of broadcasting equipment.	Available and Complete	Compliant	5
		Available but not complete	Not Yet Compliant	2
		Not Available	Not Compliant	1
K4	The broadcasting provider has not transferred the broadcasting license	Yes	Compliant	5
		No	Not Compliant	1
K5	The broadcasting provider complies with the regulations regarding changes in foreign share ownership, concentration of ownership, and cross-ownership	No changes	Very Compliant	5
		Changed and reported	Compliant	4
		Changed but not reported	Not Compliant	1
K6	The broadcasting provider has submitted the most recent deed of amendment, which includes changes to the legal entity's name, board composition, shareholding, capital, and office address.	No changes	Very Compliant	5
		Changed and reported	Compliant	4
		Changed but not reported	Not Compliant	1
K7	Broadcasting service institutions (radio or television) using terrestrial media for special purposes, broadcasting programs that follow the proposed field by at least 80% of the total broadcasting content.	Yes	Compliant	5
		No	Not Compliant	1
K8	The broadcasting provider opens access and/or provides requested information for monitoring and evaluation.	Yes	Compliant	5
		No	Not Compliant	1

TABLE III
DATA OF 527 RADIO BROADCASTING OPERATORS

No	User ID	K1	K2	K3	K4	K5	K6	K7	K8
1	RSXXX1	Yes	2023	Available and Complete	No	No changes	No changes	Yes	Yes
2	RSXXX2	Yes	2023	Available and Complete	No	No changes	No changes	Yes	Yes
3	RSXXX3	Yes	2023	Available and Complete	No	No changes	No changes	Yes	Yes
.									
.									
525	RSXXX525	Yes	2023	Available and Complete	No	No changes	No changes	Yes	Yes
526	RSXXX526	Yes	2023	Available and Complete	No	No changes	No changes	Yes	Yes
527	RSXXX527	Yes	2023	Available and Complete	No	No changes	No changes	Yes	Yes

TABLE IV
PAIRWISE COMPARISON MATRIX

	K1	K2	K3	K4	K5	K6	K7	K8
K1	1	1	1	3	2	2	5	5
K2	1	1	1	3	2	2	5	5
K3	1	1	1	3	2	2	5	5
K4	0.33	0.33	0.33	1	2	2	5	5
K5	0.5	0.5	0.5	0.5	1	1	5	5
K6	0.5	0.5	0.5	0.5	1	1	5	5
K7	0.2	0.2	0.2	0.2	0.2	0.2	1	1
K8	0.2	0.2	0.2	0.2	0.2	0.2	1	1
Sum	4.73	4.73	4.73	11.4	10.4	10.4	32	32

TABLE V
MATRIX NORMALIZATION

	K1	K2	K3	K4	K5	K6	K7	K8
K1	0.2114	0.2114	0.2114	0.2632	0.1923	0.1923	0.1563	0.1563
K2	0.2114	0.2114	0.2114	0.2632	0.1923	0.1923	0.1563	0.1563
K3	0.2114	0.2114	0.2114	0.2632	0.1923	0.1923	0.1563	0.1563
K4	0.0698	0.0698	0.0698	0.0877	0.1923	0.1923	0.1563	0.1563
K5	0.1057	0.1057	0.1057	0.0439	0.0962	0.0962	0.1563	0.1563

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	K1	K2	K3	K4	K5	K6	K7	K8
K6	0.1057	0.1057	0.1057	0.0439	0.0962	0.0962	0.1563	0.1563
K7	0.0423	0.0423	0.0423	0.0175	0.0192	0.0192	0.0313	0.0313
K8	0.0423	0.0423	0.0423	0.0175	0.0192	0.0192	0.0313	0.0313
Sum	1	1	1	1	1	1	1	1

TABLE VI
EIGEN VECTOR

	K1	K2	K3	K4	K5	K6	K7	K8	Total	Eigen Vector
K1	0.2114	0.2114	0.2114	0.2632	0.1923	0.1923	0.1563	0.1563	1.5945	0.1993
K2	0.2114	0.2114	0.2114	0.2632	0.1923	0.1923	0.1563	0.1563	1.5945	0.1993
K3	0.2114	0.2114	0.2114	0.2632	0.1923	0.1923	0.1563	0.1563	1.5945	0.1993
K4	0.0698	0.0698	0.0698	0.0877	0.1923	0.1923	0.1563	0.1563	0.9941	0.1243
K5	0.1057	0.1057	0.1057	0.0439	0.0962	0.0962	0.1563	0.1563	0.8658	0.1082
K6	0.1057	0.1057	0.1057	0.0439	0.0962	0.0962	0.1563	0.1563	0.8658	0.1082
K7	0.0423	0.0423	0.0423	0.0175	0.0192	0.0192	0.0313	0.0313	0.2454	0.0307
K8	0.0423	0.0423	0.0423	0.0175	0.0192	0.0192	0.0313	0.0313	0.2454	0.0307
Sum	1	1	1	1	1	1	1	1	8.0000	1

TABLE VII
RESULT OF PAIRWISE COMPARISONS MULTIPLIED BY PRIORITY WEIGHTS

	K1	K2	K3	K4	K5	K6	K7	K8	Weight	Vector
K1	1	1	1	3	2	2	5	5	0.1993	1.7107
K2	1	1	1	3	2	2	5	5	0.1993	1.7107
K3	1	1	1	3	2	2	5	5	0.1993	1.7107
K4	0.33	0.33	0.33	1	2	2	5	5	0.1243	1.0631
K5	0.5	0.5	0.5	0.5	1	1	5	5	0.1082	0.8441
K6	0.5	0.5	0.5	0.5	1	1	5	5	0.1082	0.8441
K7	0.2	0.2	0.2	0.2	0.2	0.2	1	1	0.0307	0.2491
K8	0.2	0.2	0.2	0.2	0.2	0.2	1	1	0.0307	0.2491

Based on Table VII, the next step is to calculate the result (λ) by dividing the vector values by the corresponding eigenvector (priority weights), as shown in Table VIII.

TABLE VIII
RESULT OF λ

	Vector	Priority Weight	λ
K1	1.7107	0,1993	8,583
K2	1.7107	0,1993	8,583
K3	1.7107	0,1993	8,583
K4	1.0631	0,1243	8,555
K5	0.8441	0,1082	7,800
K6	0.8441	0,1082	7,800
K7	0.2491	0,0307	8,122
K8	0.2491	0,0307	8,122
	λ max		8.268

After obtaining the value of λ max, the next step is to calculate the Consistency Index (CI) using Equation (1).

$$CI = \frac{\lambda \max - n}{n-1} = \frac{8.268-8}{8-1} = 0.037 \quad (1)$$

The final step in the consistency calculation is to determine the Consistency Ratio (CR), which is obtained by dividing the Consistency Index (CI) by the Random Index (RI). In this study, the RI value is 1,41, corresponding to the total of 8 criteria. The CR value is obtained by dividing the CI by the RI, which is 0.026 (less than or equal to 0.1). So, it indicates that the comparisons are consistent. In the final step, the priority weight values to be used in this study are finalized by rounding the weight values for each criterion to the nearest integer. The rounded priority weights are presented in Table IX.

TABLE IX
DETERMINATION OF CRITERION WEIGHTS BASED ON PRIORITY WEIGHT VALUES

	Priority	Criterion Weight	Round
K1	0,1993	19,93%	20%
K2	0,1993	19,93%	20%
K3	0,1993	19,93%	20%
K4	0,1243	12,43%	12%
K5	0,1082	10,82%	11%
K6	0,1082	10,82%	11%
K7	0,0307	3,07%	3%
K8	0,0307	3,07%	3%
		100%	100%

B. Simple Additive Weighting

After obtaining the criterion weight values using the AHP method and performing the consistency ratio test, the next step is to apply the SAW (Simple Additive Weighting) method to analyze the compliance level of radio broadcasting implementation, to rank the previously defined alternatives.

The SAW method requires normalizing the decision matrix to a comparable scale across all alternative ratings. The SAW method itself involves two types of criterion attributes used in decision-making: benefit criteria and cost criteria. In this study, all of the attributes used are benefit criteria.

The next step is to compile the alternative data of radio broadcasting providers and determine the alternative values. As shown in Table 3, the author has compiled data for 527 radio broadcasting providers, which were collected from the 2024 Field Verification Report on Broadcasting Compliance. After the compilation, the author conducted a conversion process based on the indicators assigned to each criterion for the

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alternatives, as presented in Table X.

The next step is to normalize the alternative values based on the attributes and criterion indicators, following the initial steps of the SAW method, in which all criteria are considered as benefit criteria. The normalisation Value is obtained by dividing each value by the maximum value in its respective criterion column. Therefore, normalized alternative values based on attributes are presented in Table XI.

The next step is to calculate the final score of each alternative. Based on the previous calculations, this step involves multiplying each normalized value of the alternatives by the corresponding criterion weights (priority weights) or eigenvectors that have been determined using the AHP method. The result can be seen in Table XII.

The final step in the SAW method is to calculate the ranking of the alternatives. The ranking process is conducted to determine the best alternative in descending order of preference. The results of the alternative ranking in this study, which analyzes the compliance level of radio broadcasting implementation, are presented in Table XIII.

TABLE X
ALTERNATIVE VALUES BASED ON CRITERION INDICATORS

NO	USER ID	NAME	K1	K2	K3	K4	K5	K6	K7	K8
1	RSXXX1	Radio A	5	5	5	5	5	5	5	5
2	RSXXX2	Radio B	1	5	5	5	5	5	5	5
3	RSXXX3	Radio C	1	5	5	5	5	5	5	5
.										
.										
525	RSXXX525	Radio D	1	1	1	5	5	5	5	1
526	RSXXX526	Radio E	5	5	5	5	5	5	5	5
527	RSXXX527	Radio F	5	5	5	5	5	5	5	5

TABLE XI
NORMALIZED ALTERNATIVE VALUES BASED ON ATTRIBUTES

NO	USER ID	NAME	K1	K2	K3	K4	K5	K6	K7	K8
1	RSXXX1	Radio A	1	1	1	1	1	1	1	1
2	RSXXX2	Radio B	0.2	1	1	1	1	1	1	1
3	RSXXX3	Radio C	0.2	1	1	1	1	1	1	1
.										
.										
525	RSXXX525	Radio D	0.2	0.2	0.2	1	1	1	1	0.2
526	RSXXX526	Radio E	1	1	1	1	1	1	1	1
527	RSXXX527	Radio F	1	1	1	1	1	1	1	1

TABLE XII
FINAL SCORE CALCULATION RESULTS OF ALTERNATIVES

NO	USER ID	NAME	K1	K2	K3	K4	K5	K6	K7	K8	Result
1	RSXXX1	Radio A	1	1	1	1	1	1	1	1	1.00
2	RSXXX2	Radio B	0.2	1	1	1	1	1	1	1	0.84
3	RSXXX3	Radio C	0.2	1	1	1	1	1	1	1	0.84
.											
.											
525	RSXXX525	Radio D	0.2	0.2	0.2	1	1	1	1	0.2	0.50
526	RSXXX526	Radio E	1	1	1	1	1	1	1	1	1.00
527	RSXXX527	Radio F	1	1	1	1	1	1	1	1	1.00

TABLE XIII
RANK RESULTS OF RADIO BROADCASTING COMPLIANCE LEVELS USING AHP AND SAW METHODS

NO	USER ID	NAME	Result	Value	Ranking
1	RSXXX1	Radio A	1.00	100%	High Level of Compliance
2	RSXXX2	Radio B	0.84	84%	Moderate Level of Compliance
3	RSXXX3	Radio C	0.84	84%	Moderate Level of Compliance

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NO	USER ID	NAME	Result	Value	Ranking
.					
.					
525	RSXXX525	Radio D	0.50	49.6%	Low Level of Compliance
526	RSXXX526	Radio E	1.00	100%	High Level of Compliance
527	RSXXX527	Radio F	1.00	100%	High Level of Compliance

The evaluation analysis of 527 radio broadcasting providers using a combination of the AHP and SAW methods successfully classified the compliance levels into three main categories: High Level, Moderate Level, and Low Level. This classification is based on the final ranking scores, with the criteria defined as follows: scores below 60% indicate Low Level compliance, scores between 60.1% and 98% indicate Moderate Level compliance, and scores between 98.1% and 100% indicate High Level compliance.

The dominance of broadcasters in the High compliance category (382 out of 527, or 72.5%) reflects a generally strong adherence to the regulatory framework defined in *Permenkominfo* No. 6 of 2021. This result may indicate an improvement in administrative capacity and awareness among providers, likely due to the digital reporting tools implemented by the Ministry and the growing integration of licensing compliance with technical monitoring systems.

However, the presence of 120 institutions in the Moderate category and 25 in the Low compliance group signals potential gaps in regulatory outreach, technical support, or policy enforcement. These broadcasters may struggle with outdated equipment, incomplete administrative filings, or limited access to regulatory updates.

For stakeholders, this segmentation presents an opportunity for more targeted policy interventions. Regulators can prioritize guidance and support for institutions in the Moderate category to prevent degradation into non-compliance. Meanwhile, public broadcasters or associations can develop capacity-building programs based on the specific deficiencies highlighted through the SAW ranking scores (e.g., unpaid IPP fees or unreported shareholding changes). This evaluation model not only improves transparency but also allows regulators to allocate resources proactively, recommend penalties, or issue tailored compliance roadmaps for different broadcaster profiles.

IV. CONCLUSION

Based on the research conducted on the analysis of radio broadcasting compliance levels using the AHP and SAW methods. Consistent and relevant criteria weighting through AHP The AHP method was successfully applied to determine the priority weights for each compliance evaluation criterion in radio broadcasting operations. The resulting Consistency Ratio (CR) value of less than 0.1 indicates that expert assessments of the criteria were consistent and methodologically reliable. This supports the validity of the hierarchical structure developed based on administrative, technical, and legal compliance dimensions as mandated by broadcasting regulations, the measurable and systematic compliance ranking using SAW. The SAW method effectively ranked 527 radio broadcasting providers according to the criteria weights obtained from AHP. The ranking results categorized compliance levels into three main groups, high level (382 providers, average score 100%), moderate level (120 providers, average score 83.65%), and Low Level (25 providers, average score 50.85%) This approach provides quantitative and objective results that reflect the actual conditions on the ground and facilitates evidence-based policy formulation. The study successfully developed a DSS model capable of processing field verification data and annual reports from radio broadcasting providers. This system supports regulators, particularly the Directorate of Digital Ecosystem Control at the Ministry of Communication and Information Technology, in formulating recommendations, providing guidance, and conducting interventions based on categorized compliance levels.

In addition to offering a reliable ranking framework, this study recommends that regulatory bodies consider institutionalizing the AHP-SAW-based compliance evaluation system within the existing licensing and monitoring infrastructure. The integration of this system into platforms such as the e-Penyiaran dashboard can support continuous tracking, automate risk alerts for non-compliance, and generate compliance scorecards for each broadcaster.

Furthermore, it is suggested that the Ministry of Communication and Information Technology adopt this model for semi-annual compliance audits. Broadcaster associations use the findings to organize focused workshops or technical clinics for providers falling in the Moderate and Low compliance categories. Future research will investigate whether a similar model can be adapted for digital TV broadcasters or streaming content providers, particularly as regulatory frameworks evolve. Overall, this evaluation model provides a replicable and adaptive framework for enhancing broadcasting governance in Indonesia's post-analog media landscape.

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